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POSTER - Diversity and relationship of a blueberry germplasm collection assessed by morphological and biochemical descriptors and SSR markers.

Authors: luisa.palmieri@fmach.it

Name	Surname	Institution	Address	Country	Presenting Author
Luisa	Palmieri	Research and Innovation Centre, Fondazione Edmund Mach	via E. Mach1	Italy	X
Marcella	Grisenti	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	
Maddalena	Sordo	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	
Stella	Grando	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	
Elisabete	Carvalho	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	
		Royal Holloway, University of London	Egham Hill, EGHAM, TW20 0EX	UK	
Urska	Vrhovsek	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	
Stefan	Martens	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	
Lara	Giongo	Research and Innovation Centre, Edmund Mach Foundation	via E. Mach1	Italy	

Abstract: Blueberry is currently cultivated in Italy on a relatively small scale, but - as in other parts of the world - its production is increasing. It is highly adapted to the Alpine regions and in Trentino (Northern Italy) it represents one of the most representative commercial crops. In general, the most important species in commercial orchards are *V. corymbosum*, *V. angustifolium* and in a low percentage of *V. ashei*. The high concentrations of antioxidants and other beneficial health compounds in blueberries have increased the demand for this crop among health-conscious consumers and may further increase in the near future.

The development of DNA-based markers in blueberries has facilitated species distinction and cultivar identification, allowing the production pipeline to be more precise and consistent, with particular regard to plant production and subsequently fruit quality for consumption. Moreover the development of a good analysis method permitted the stilbene content determination in different *Vaccinium spp* and varieties.

We have assessed the diversity and relationships of accessions of blueberry derived from different European and extra-European countries using various fruit and plant morphological descriptors, fruit biochemical profiles and 13 highly polymorphic genomic SSRs. Different statistical analysis were conducted on the different data types (genetic, morphological, biochemical) to determine the different clustering structures. These results were compared to determine the most representative structure of the varieties/species under analysis.

Assessment of the diversity and relationships of the cultivated species facilitates the establishment of conservation strategies, implements the study of blueberry crop evolution and increases the quality production process.

Keywords: blueberry, SSRs, germplasm, stilbene, morphological and biochemical descriptors

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Topics: Germplasm collections and molecular characterisation